

CLAIMS

1. A process for preparing a dough-based product, comprising adding a xylanase to a dough, leavening, and heating the dough, wherein the xylanase is a polypeptide having at least 83 % identity to the amino acid sequence as shown in positions 1-182 of SEQ ID NO 2 or encoded by a nucleic acid sequence which hybridizes at 38°C in 0.1 x SSC with the complementary strand of nucleotides 85-630 of SEQ ID NO: 1.
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2. The process of claim 1 which further comprises adding an exo-acting maltogenic alpha-amylase to the dough.
3. A composition which comprises flour together with a xylanase which is a polypeptide having at least 83 % identity to the amino acid sequence as shown in positions 1-182 of SEQ ID NO: 2 or encoded by a DNA sequence which can hybridize at 38°C in 0.1 x SSC to the complementary strand of nucleotides 85-630 of SEQ ID NO: 1.
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4. The composition of the preceding claim which is a dough.
5. A granulate or agglomerated powder comprising a xylanase which is a polypeptide having at least 83 % identity to the amino acid sequence as shown in positions 1-182 of SEQ ID NO 2 or encoded by a nucleic acid sequence which hybridizes at 38°C in 0.1 x SSC with the complementary strand of nucleotides 85-630 of SEQ ID NO: 1.
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6. A polypeptide having xylanase activity selected from the group consisting of:
 - a) a polypeptide encoded by the xylanase-encoding part of the genome present in *Paenibacillus* DSM 16232 that can be amplified with the primers (SEQ ID NO.: 3) and (SEQ ID NO.: 4)
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 - b) a polypeptide having an amino acid sequence as shown in positions 1-182 of SEQ ID NO 2;
 - c) a polypeptide which has at least 95 % identity to the polypeptide defined in (a) or
25 (b),
 - d) a polypeptide which is encoded by a nucleic acid sequence which hybridizes at 49°C in 0.1 x SSC with the complementary strand of nucleotides 85-630 of SEQ ID NO: 1.
7. A polynucleotide comprising a sequence selected from the group consisting of:
 - a) the xylanase-encoding part of the genome of *Paenibacillus* that can be amplified with the primers (SEQ ID NO.: 3) and (SEQ ID NO.: 4) present in DSM 16232;
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 - b) nucleotides 85-630 of SEQ ID NO: 1;
 - c) a polynucleotide encoding amino acids 1-182 of SEQ ID NO 2;

d) a polynucleotide which encodes a polypeptide having xylanase activity and has at least 95 % identity to the polynucleotide of a), b) or c),

e) a nucleic acid sequence which hybridizes at 49°C in 0.1 x SSC with the complementary strand of the polynucleotide of a), b) or c),

5 f) the complementary strand of the polynucleotide of a), b), c), d) or e).

8. A vector comprising the polynucleotide of claim 7 operably linked to one or more control sequences that direct the production of the polypeptide in a suitable host.

9. A transformed host cell comprising the vector of claim 8.

10. A method for producing an xylanase, which comprises

10 a) cultivating the host cell of claim 9 under conditions appropriate for expression of xylanase, and

b) recovering the xylanase.